REMARKS

Claims 1-19 remain in this application. Claim 1 has been amended. By these amendments, no new matter has been added.

The present invention relates to lightweight rigid structural panels such as are used for interior walls, floors, doors in aircraft, and more particularly to such panels as are designed to resist ballistic impacts from bullets, shrapnel, and like objects. It represents a significant advance in the art, in that prior-art ballistic-resistant materials have failed to achieve comparable ballistic resistance in a lightweight (under 2.5 pounds per square foot) rigid structural panel. Generally, rigidity and ballistic resistance are incompatible in lightweight materials. That is, as a lightweight structural panel material is made more rigid but not heavier, the less effective it is likely to be in resisting ballistic penetration.

The tragic events of September 11 created a widespread recognition that a ballistic-resistant security door is desirable for commercial aircraft. A security door, however, must be very stiff to resist being pried open. Conventional ballistic materials cannot provide sufficient stiffness and structural integrity without being unduly heavy. And conventional aircraft structural panels, although lightweight and rigid, are not at all ballistic resistant. Prior to the present invention, it was not at all obvious how to provide a ballistic panel that was both lightweight and rigid. The present invention solved this conundrum with a cost-effective, elegant and novel combination of elements, resulting in a lightweight, rigid structural panel possessing a surprising degree of ballistic resistance.

The Examiner rejected Claims 1, 7-8, 12-13, and 17-18 under 35 U.S.C. § 102(e) over Morgan; Claim 4 under 35 U.S.C. § 102(e) or 35 U.S.C. § 103(a) over Morgan, and Claims 2, 3, 5-6, 9-11, 14, and 16 under 35 U.S.C. § 103(a) over Morgan. These rejections are respectfully traversed.

Applicants have submitted herewith their Declaration under 37 C.F.R. § 1.131

and accompanying Exhibits A and B, which prove prior conception of the invention and diligent reduction to practice beginning from just prior to the effective date of Morgan. These submissions therefore demonstrate that Morgan does not qualify as prior art under 35 U.S.C. § 102(e) or 103(a), and these rejections should therefore be withdrawn. Applicants have chosen to traverse these rejections by swearing behind Morgan, and do not admit or otherwise acquiesce as to the merits of any of these rejections.

The Examiner maintained her prior rejections of Claims 1-19 under 35 U.S.C. § 103(a), with Claims 1-12 and 14-16 being rejected over Fingerhut and Dickson, Claim 13 over Fingerhut, Dickson and Bachner, Claims 17 and 18 over Fingerhut, Dickson and Dunbar or Goerz, and Claim 19 over Fingerhut, Dickson, and Hollis. These rejections are respectfully traversed.

The Examiner responded to Applicant's last arguments traversing these rejections as follows:

> These arguments are not persuasive because Applicant fails to specify the degree of rigidity required in the present invention. It is the Examiner's position that the explosion resistant container of Fingerhut has some degree of rigidity because only the side wall of the container are flexible. Therefore, the other sides of the container are more rigid. Furthermore, it is well known in the ballistic protection industry to use cushioning materials to provide increased protection against impact forces. Also, cushioning materials are well suited to receive a blunt force and transmit it laterally away from the impact site and thereby distribute its effect over a broader area.

(Office Action, p. 11). The Examiner's counter-arguments are addressed in turn below.

Regarding the Examiner's primary argument, Claim 1 now defines a specific degree of rigidity. It should be apparent that the defined structure, having a panel core "not less than about 0.25 inches thick" that is "interposed between the first fiber-reinforced face skin and the second fiber-reinforced face skin so as to stiffen the rigid structural panel by being bonded to the first and second fiber-reinforced face skins while

maintaining a uniform separation therebetween," and wherein "the first and second fiber-reinforced face skins are each configured to have a tensile strength not less than about 40,000 PSI and a thickness not less than about 0.06 inches," has a specific degree of rigidity that can not reasonably be considered "flexible" within the meaning of Fingerhut. That is, these and other limitations of Claim 1 define structure sufficient to limit the claimed structural panel to have not less than a defined degree of rigidity that may readily be calculated, and that would not be considered flexible as compared to the flexible container walls and flexible door disclosed by Fingerhut.

Regarding the Examiner's statement that "other sides of the container [of Fingerhut] are more rigid," a careful review of Fingerhut reveals that, apart from the metallic framework, only the container bottom is of a different construction from the flexible walls or the flexible container door. (Col. 8, lines 7-23.) The container bottom, however, includes a metal bottom plate of aluminum or steel, and hence, represents a structure of a different type and function. (Id.) Apart from the metallic bottom plate, Fingerhut consistently discloses the use of flexible composite walls and a flexible door. Fingerhut and the other cited references fail to disclose the specific structural limitations of Claim 1, or any use of padding or insulation material as part of a rigid assembly. Claim 1 is therefore sufficiently distinguished over Fingerhut and the other references of record.

Regarding the Examiner's argument that the use of cushioning materials is well known in the ballistics protection industry, the Examiner cites only Bachner in support this contention. Bachner, however, discloses use of a cushioning material in a flexible garment material. Bachner, and all the other references of record, fail to disclose or suggest any arrangement of cushioning material with other elements to provide a rigid structural panel, as defined by Claim 1. Applicants respectfully submit that the defined structure is therefore patentable.

Therefore, Claim 1 is in condition for allowance, and Claims 2-19 are allowable as depending from an allowable base claim. In view of the foregoing, the Applicants respectfully submit that Claims 1-19 are in condition for allowance. Reconsideration and withdrawal of the rejections is respectfully requested, and a timely Notice of Allowability is solicited.

To the extent it would be helpful to placing this application in condition for allowance, the Applicants encourage the Examiner to contact the undersigned counsel and conduct a telephonic interview.

To the extent necessary, Applicants petition the Commissioner for a one-month extension of time, extending to June 18, 2004, the period for response to the Office Action dated February 18, 2004. A check in the amount of $880.00 is enclosed for the one-month extension of time ($110.00) pursuant to 37 CFR §1.17(a)(1) and for request for continued examination (RCE) ($770.00) pursuant to 37 CFR § 1.17(e). The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-0639.

Respectfully submitted,

Date: June 18, 2004

Brian M. Berliner
Attorney for Applicants
Registration No. 34,549

O'MELVENY & MYERS LLP
400 South Hope Street
Los Angeles, CA 90071-2899
Telephone: (213) 430-6000

Enclosure: Declaration of Prior Invention to Overcome Cited Patent